

EDUCATION

Education Level	Institution	Board/Stream	Year	Score Type	Score
B.Tech	Atria University, Bengaluru	Computer Science (Data Science & AI )	2025 (3 <sup>rd</sup> year)	CGPA	9.7
Class XII	Vidyagyan School, Bulandshahr	CBSE (PCM)	2021 - 2022	Percentage	94%
Class X	Vidyagyan School, Bulandshahr	CBSE	2019 - 2020	Percentage	96.33%

EXPERIENCE

**AI Research Intern – Centre For Air Borne System (CABS), DRDO** (Ministry of defence India) August 2025 - Present

- Developing a fully offline, secure Retrieval-Augmented Generation (RAG) chatbot to provide rapid, accurate access to the DRDO CABS HMI user manual. Leveraged MiniLM for embeddings, ChromaDB for vector storage, Llama 3 (8B) model for response generation

**AI Research Intern – Climate & Sustainability Tech, ACAD** May 2025 - July 2025

- Built geospatial tools and web applications using Python (FastAPI), Google Earth Engine, and Leaflet.js for ecosystem monitoring and climate action.
- Processed satellite imagery (Sentinel, Landsat, MODIS), extracted spectral bands, and applied indices (e.g., NDVI, chlorophyll, soil moisture) for environmental analysis.
- Developed a stubble-burning hotspot detection app for the Delhi-NCR region to support pollution monitoring.

**Data Science Intern at Insignia Consultancy Solutions** June 2024 - Dec 2024

- During this Internship, I have been working on the NER model.
- I was given tasks for annotating the Resumes and Job descriptions which we will use for our NER model.
- I also have worked on R&D on GenAI and different Machine Learning Algorithms.

**Trainee at Intel® Unnati Industrial Training Program - 2024** May 2024 - Jul 2024

- Under this training program I was given a project “Intel® Products Sentiment Analysis from Online Reviews”
- Developed a Python-based automated web scraper to efficiently extract relevant data from Amazon.com.
- Utilized Natural Language Processing (NLP) techniques to analyze sentiment in customer reviews and extract valuable insights.
- Built a machine learning model achieving an accuracy of 85% in predicting sentiment across different review categories.

PROJECTS

**The Monk AI – RAG Chatbot| September 2025**

- Building an advanced RAG-based chatbot that enables natural, voice-enabled interactions to explore Hindu scriptures.
- Key features include dual interaction modes (Beginner & Expert), source-grounded answers with citations, advanced cross-encoder re-ranking for context relevance, Hindi translations, key term explanations, and book recommendations. Leveraged technologies: Transformer models, cross-encoder re-ranking, voice-to-text processing, and source retrieval pipelines.

**AI Research Assistant (MCP Protocol) | August 2025 :**

- Engineered a multi-agent research automation system using FastAPI, Socket.IO, and Gemini 1.5 Flash LLM, where agents (Orchestrator, Search, Summarizer, Report Writer) communicate via MCP protocol to execute dynamic research plans.
- Integrated Google Search API for real-time data retrieval and built an interactive web frontend with JavaScript, Socket.IO client, and Markdown rendering.

**Sentiment Analysis on Ear Wearable Product Reviews Using ML & DL (2023 - 2024)**

- Developed a deep learning-based sentiment analysis system for classifying 21,825 Amazon reviews of ear wearable products with 90% accuracy.
- Built an LSTM model with optimized sequential text processing, achieving an F1-score of 0.91 and precision-recall balance of 0.89.
- Automated data scraping using Selenium and implemented a Flask-based UI, providing sentiment predictions with confidence scores for real-time user interaction.

**Breast Tumor Classification (2023 - 2024)**

- Developed a system analyzing 20,403 breast tumor images across Non-Cancer (8,060), Early Phase (6,133), and Middle Phase (6,210) categories.
- Applied advanced image processing (Gaussian Smoothing, HOG) and tested models:
- Custom CNN (80.6% accuracy - best performer)
- Random Forest (77%), SVM (74%), MobileNetV2 (underperformed).
- Enhances diagnostic efficiency, reducing manual analysis time, supporting early detection, and enabling cost-effective tumor screening.

SKILLS

- Programming Languages:** Python, SQL
- Libraries and Frameworks:** OpenCV, Scikit-Learn, TensorFlow, PyTorch, Keras, NumPy, Pandas, Seaborn, FastAPI, Flask, Langchain
- Developer Tools & Databases :** Jupyter Notebook, Google Colab, GitHub, VS Code, Altair AI Studio, Docker, MongoDB, MySQL, VectorDB, MCP
- ML/DL Architectures:** Convolutional Neural Networks (CNNs), RNNs, LSTM, RAGs, Digital Image Processing, Feature Extraction, Supervised & Unsupervised Learning, Time Series Forecasting, Transformers, LLMs, HuggingFace.

CERTIFICATION & ACHIEVEMENTS

- Research paper accepted at IEEE Space
- All India **1st** position in Data Science Contest by Altair India.
- Research paper Published in HTL Journal
- Secured 6th position (Consolation Prize) in the IYD Hackathon organized by Sitare University, Lucknow, for developing an AI-powered Valmiki Ramayan Fact Checker.
- Machine Learning Professional Certicate by Altair